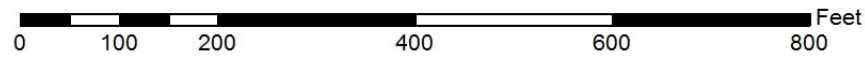
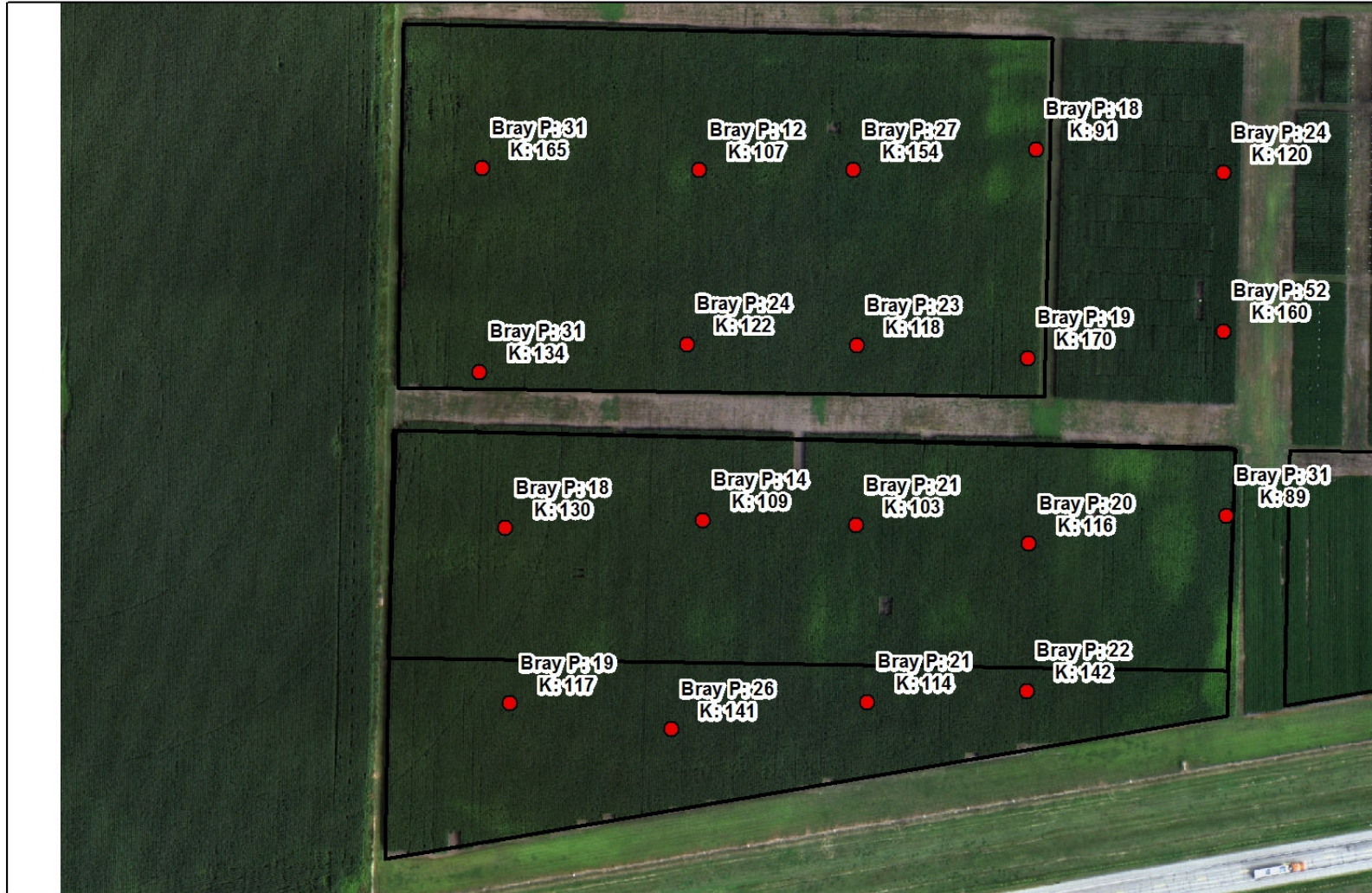




2011 Rosholt Summary Mosaic On-Farm Research

December 2011

2011 Rosholt Soil Tests



Wiebers, 11/28/2011

Fertilizer Information

- NPK applied May 6th using VRT based on 1-acre soil tests broadcast and incorporated
- 60% Urea & 40% ESN, DAP, and Potash
- 45#N as UAN applied with irrigation water on Aug 5 and Aug 10
 - 2011 soil test averages (one-acre grids)
 - Bray P 23ppm, Potassium 125ppm, Sulfur 12ppm, Zn 1.5ppm



8-27-20-6S Fertilizer Blend

Total Nitrogen 8.10%	Phosphate 27.00%	Potassium 20.15%
--------------------------------	----------------------------	----------------------------

Material	Weight per Ton	Cost per Ton
MESZ	1,350.00	\$0.00
Muriate of Potash (White)	650.00	\$0.00
Total	2,000	\$0.00

Total Tons Required	1.00	\$0.00
Bulk Density	61.30	

Nutrient	Requested %	Actual %
Total N	7.00%	8.10%
Ammoniacal N	0.00%	8.10%
Water Sol Org N	0.00%	8.10%
Phosphate	27.00%	27.00%
Potassium	20.00%	20.15%
Sulfur	0.00%	6.75%
Zinc	0.00%	0.68%
Chloride	0.00%	15.47%



19-19-13-4S Fertilizer Blend

Total Nitrogen 19.23%	Phosphate 19.77%	Potassium 13.00%
---------------------------------	----------------------------	----------------------------

Material	Weight per Ton	Cost per Ton	
MESZ	988.41	\$0.00	
Muriate of Potash (Red)	433.33	\$0.00	
Urea	578.26	\$0.00	SuperU
Total	2,000	\$0.00	

Total Tons Required	1.00	\$0.00
Bulk Density	58.70	

Nutrient	Requested %	Actual %
Total N	19.00%	19.23%
Ammoniacal N	0.00%	5.93%
Water Sol Org N	0.00%	19.23%
Phosphate	19.00%	19.77%
Potassium	13.00%	13.00%
Sulfur	0.00%	4.94%
Zinc	0.00%	0.49%
Chloride	0.00%	10.31%



Planting Information

Westport

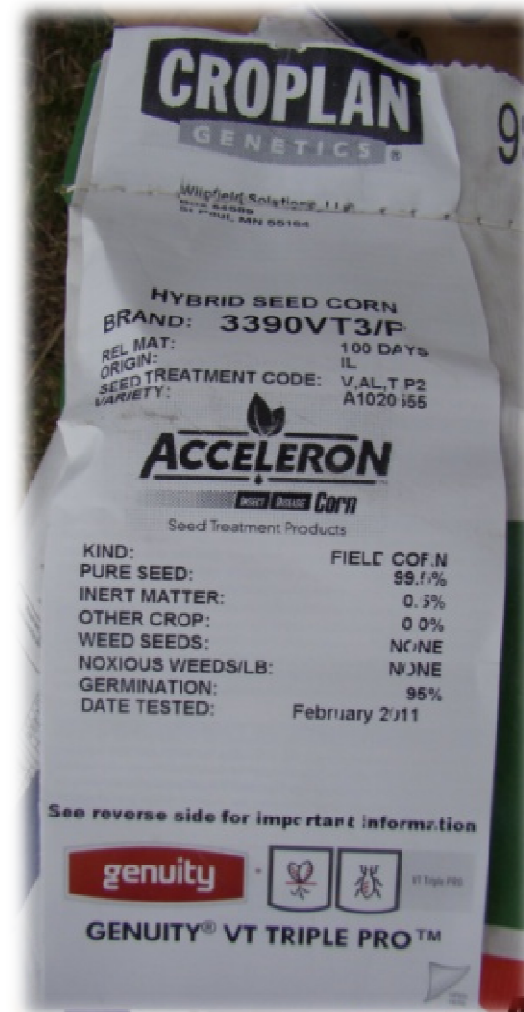
- Croplan 3390VT3 Pro, 100DRM
- Planted on May 6 and 11

Modes-of-Action Comparison Chart

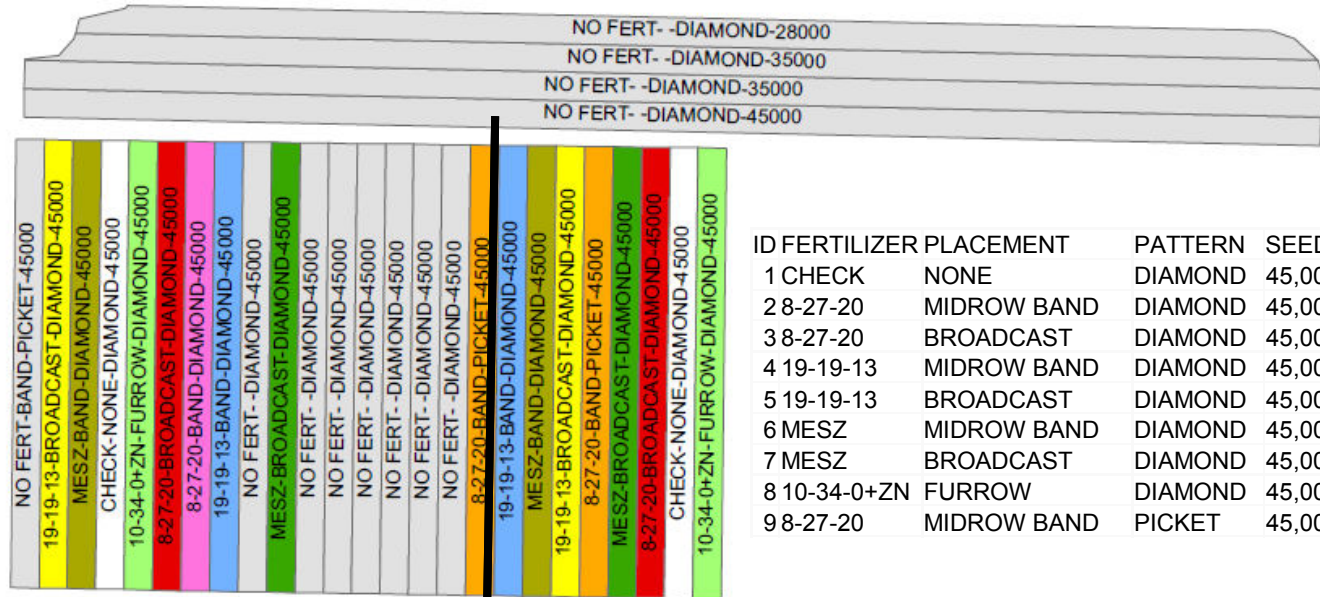
	Genuity® VT Triple PRO™	YieldGard VT Triple®
PRIMARY PESTS		
European Corn Borer (<i>Ostrinia nubilalis</i>)	**	*
Southwestern Corn Borer (<i>Diatraea graandiosella</i>)	**	*
Mexican Corn Rootworm (<i>Diabrotica barberi</i>)	*	*
Western Corn Rootworm (<i>Diabrotica virgifera virgifera</i>)	*	*
Corn Earworm (<i>Helicoverpa zea</i>)	**	
Fall Armyworm (<i>Spodoptera frugiperda</i>)	**	
REFUGE (cotton belt)	20%	50%
REFUGE (corn belt)	20%	20%

** Dual-mode activity * Single-mode activity Modes-of-Action equals control of pest

MONSANTO



2011 Rosholt Plot Design - Planter Prescription



ID	FERTILIZER	PLACEMENT	PATTERN	SEED	FERT
1	CHECK	NONE	DIAMOND	45,000	0
2	8-27-20	MIDROW BAND	DIAMOND	45,000	180
3	8-27-20	BROADCAST	DIAMOND	45,000	180
4	19-19-13	MIDROW BAND	DIAMOND	45,000	180
5	19-19-13	BROADCAST	DIAMOND	45,000	180
6	MESZ	MIDROW BAND	DIAMOND	45,000	125
7	MESZ	BROADCAST	DIAMOND	45,000	125
8	10-34-0+ZN	FURROW	DIAMOND	45,000	6 gal/ac
9	8-27-20	MIDROW BAND	PICKET	45,000	180

Corn-Soy

Corn-Corn



Broadcast Applications



Gandy drop spreader used for precise broadcast application

Liquid Zinc Application



- 6 gal/ac of 10-34-0
- 1 quart of Winfield Zinc per acre
- Applied using pump, orifices, and red ball metering system



Twin Row Planter



In Season Notes

Rosholt

- Two fungicide applications: V5-Quadris and VT-Quilt Xcel
- Growing season ended September 15th with 28 degree temperature
- High winds / green snap event on July 10th
- Glenwood weather station measured 76 MPH gust



Rosholt 6-13-2011



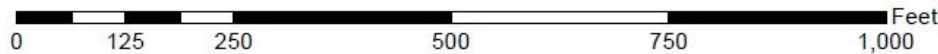
Yield Summary - Rosholt

Treatment	Yield (Bu/acre)
8-27-20-BAND-DIAMOND	196.5
8-27-20-BAND-PICKET	196.1
19-19-13-BAND-DIAMOND	195.7
10-34-0+ZN-FURROW-DIAMOND	194.8
CHECK-NONE-DIAMOND	193.6
MESZ-BROADCAST-DIAMOND	191.7
19-19-13-BROADCAST-DIAMOND	191.3
MESZ-BAND-DIAMOND	190.9
8-27-20-BROADCAST-DIAMOND	188.5
p>F	0.9
n	34.0
CV	4.9
LSD(p=0.1)	11.9
Band Vs Broadcast constrast p>F	0.21
Diamond Vs Picket contrats p>F	0.47



NIR – August 4, 2011

2011 Rosholt Plot Design - Mosaic

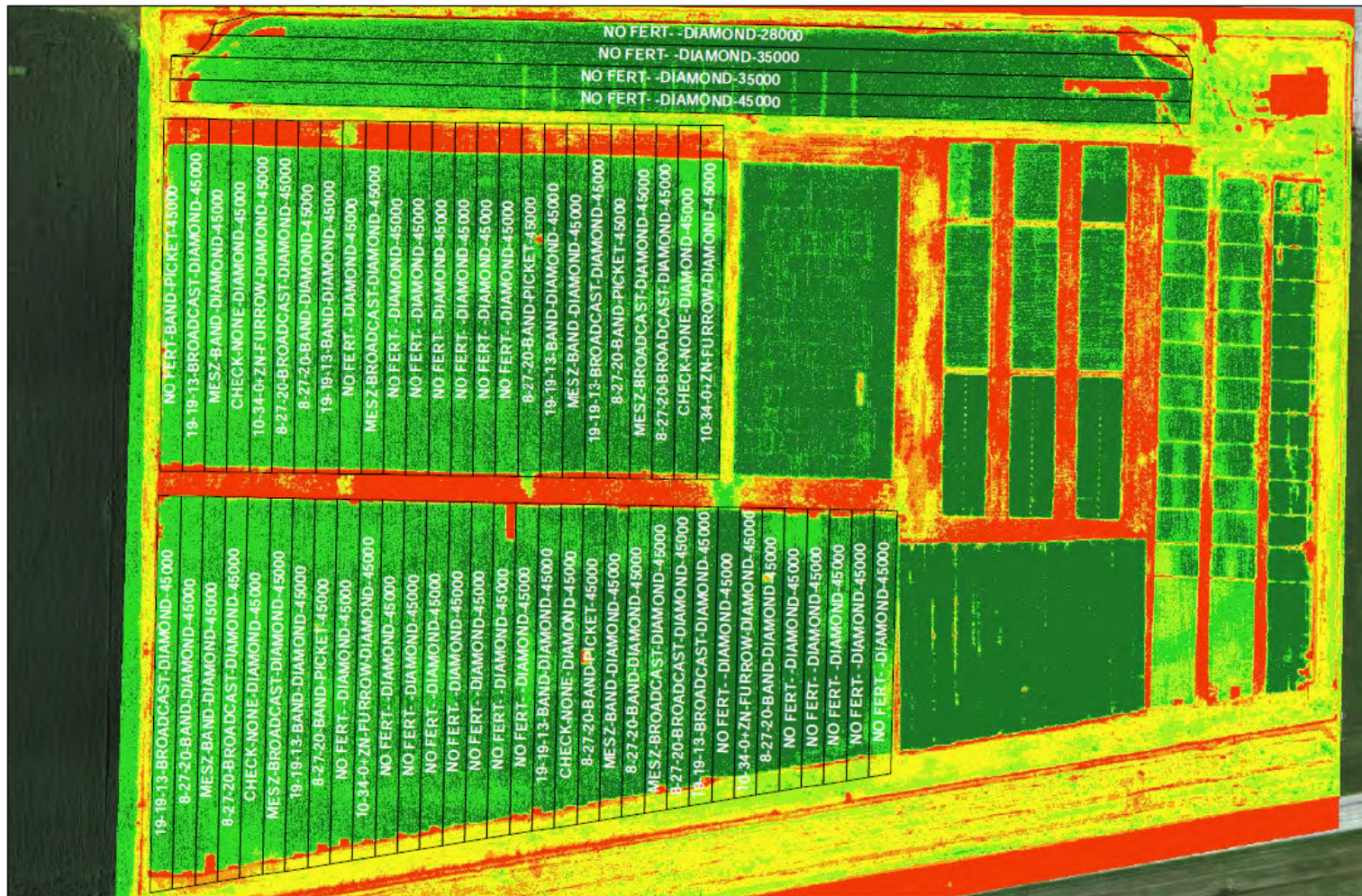


Wiebers, 9/28/2011



NDVI - August 4, 2011

2011 Rosholt Plot Design - Mosaic

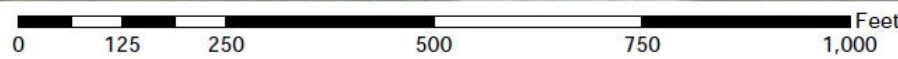
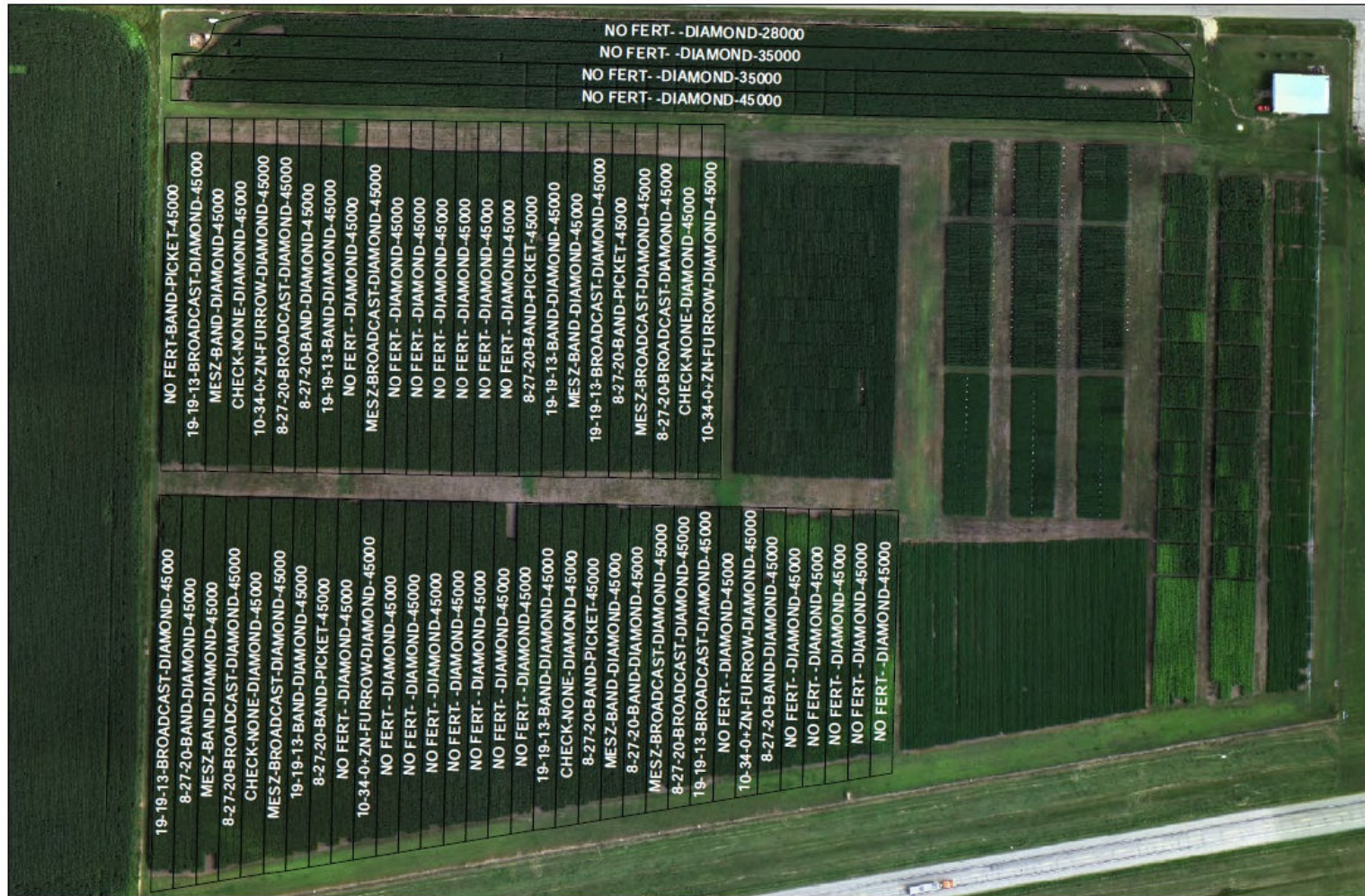


Wiebers, 9/28/2011



Natural Color - August 4, 2011

2011 Rosholt Plot Design - Mosaic

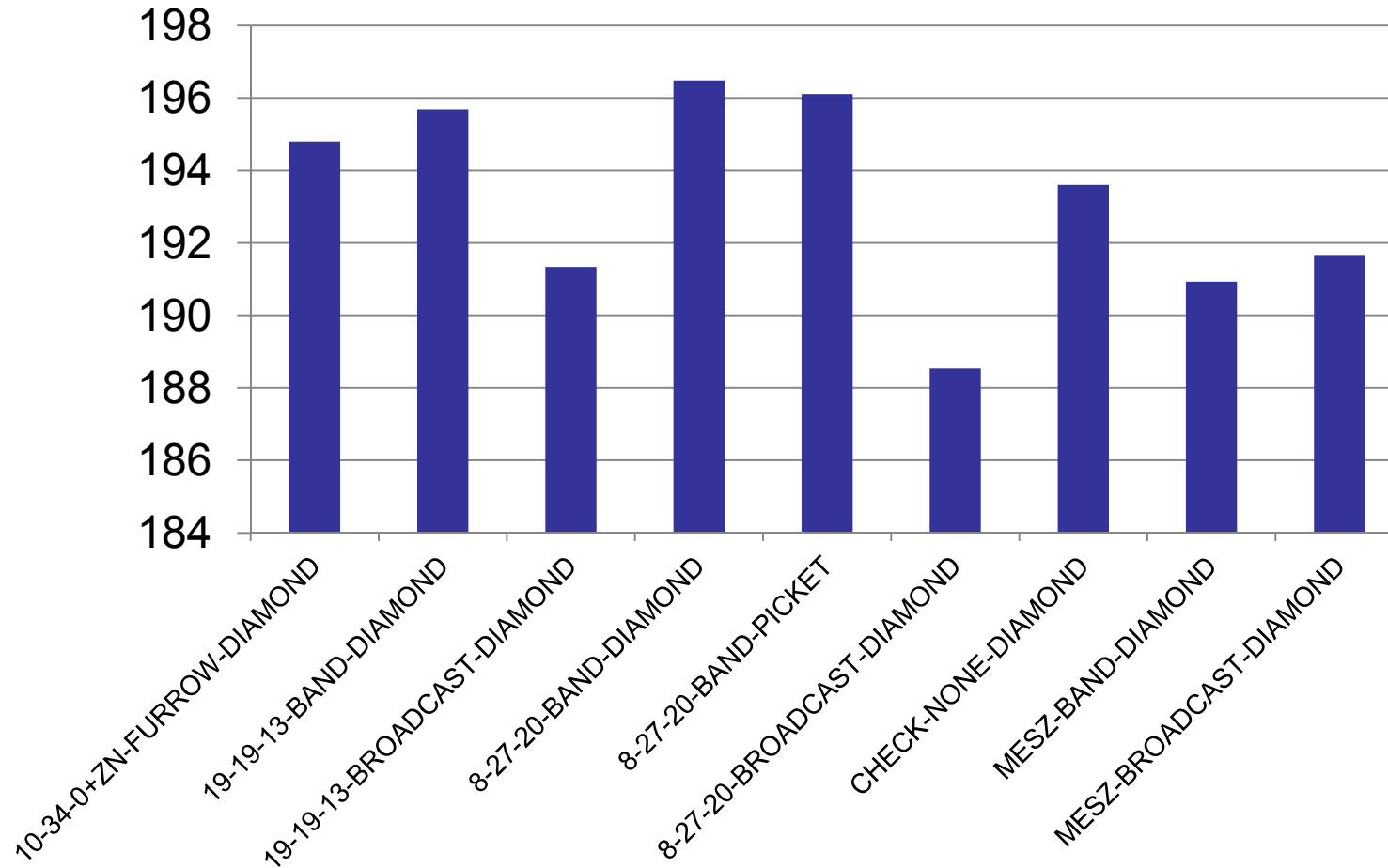


Wiebers, 9/28/2011



Rosholt Yield Summary

Yield (Bu/acre)



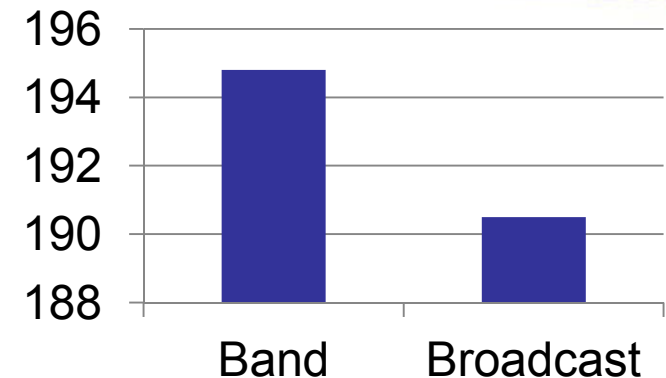
Visit by AgCo & Mosaic Staff – Sep 28, 2011



Comparison of Other Factors

Comparing Band versus broadcast application

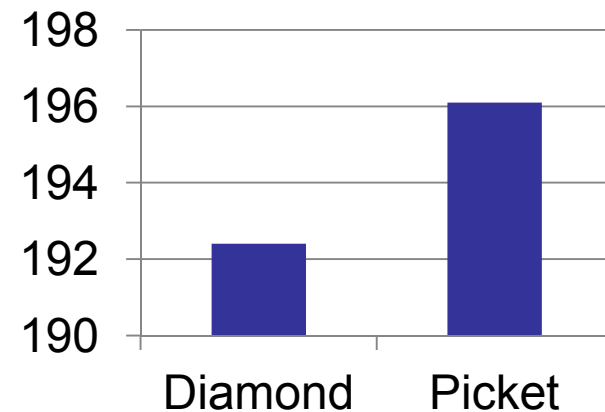
Planting	Yield (Bu/acre)
Band	194.8
Broadcast	190.5
Band Vs Broadcast, $p>F$	0.21



Statistically suggests that band placement of fertilizer increased yields.

Comparing diamond versus picket seeding

Pattern	Yield (Bu/acre)
Diamond	192.4
Picket	196.1
Diamond Vs Picket, $p>F$	0.47



Yield differences due to seed pattern are not statistically significant, even though the picket yields trended higher.



Yield Summary Comments - Rosholt

- Rosholt yields were lower than expected, due to high winds goose-necking the corn, some green snap, and high temperatures during pollination
- The yields at Rosholt were very good for the area surrounding Westport

